

COLUMBIA UNIVATIONI
AUTOY LISHARY
COLUMBIA UNIVERSITY



¾ILLUMINATING ₩

CONCRETE TILES.

JACOB MARK,

MANUFACTURER OF

All kinds of Pault Lights

~⊅FOR ∞~

AREAS, SIDEWALKS, ROOFS, FLOORSANDSKYLIGHTS,

No. 5 Worth Street,

NEW YORK,

JOHN W. MARK, Supt.

SYA ESTABLISHED 1873. || ∰ ≅#\$

TELEPHONE CALL, MURRAY 429.



ILLUSTRATED DESCRIPTIVE CATALOGUE

OF THE

PATENT

Concrete Illuminating Tile.

OFFICE: 5 WORTH STREET,

NEW YORK.

COLUMBIA UNIVERSITY

The crowded condition of the business centres of our rapidly growing cities, is taxing the ingenuity of the Architect and Builder, to provide convenient accommodations for the transaction of business.

How to build to economize room and utilize space is the momentous question; and yet there are in the busiest centres of trade, acres of unimproved room, which may, by proper adaptation be converted into roomy, well lighted and ventilated apartments suitable for Stores, Factories, Bank and Safe Deposit Vaults, &c.

We refer to the space under the side walks. Since the introduction of the Patent Concrete Illuminating Tiling this invaluable room is being rapidly utilized.

This most important building material far surpasses anything of the kind heretofore manufactured, forming as it does an even, non-slippery surface—free from knobs or projections; it makes a strong water-tight illuminating roof and pavement, easily kept clean. The metal being covered with a non-conducting material, the rooms which it covers are kept much warmer in winter and cooler in summer than where Iron comes in contact with atmospheric changes. This is a very important consideration.

WE MANUFACTURE UNDER THE FOLLOWING PATENTS:

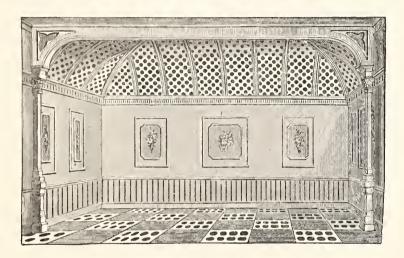
March 30, 1869. Jan. 14, 1875. March 23, 1880. April 12, 1880. March 7, 1871. Nov. 3, 1875. April 27, 1880. Sept. 26, 1880. Nov. 3, 1874. Dec. 23, 1879. Aug. 31, 1880. July 25, 1882

3 1/3

May 23, 1883, and a number of other patents.

Illuminating Concrete Tile

ROOF, FLOOR & SKY LIGHT.



This design shows the

CONCRETE FLOOR, ROOF

--AND-

-SKY LIGHT-

Lens, 2 in. and 4 in. diameter.

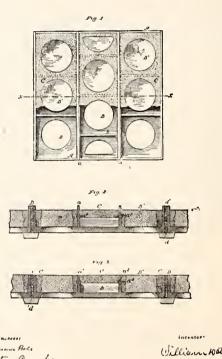
These styles are adapted to all forms of Floors, Roofs and Sky Lights—flat, curved and semi-spherical.

ORDERS FILLED FOR ANY SIZE OR FORM.

= ILLUMINATING =

VAULT AND AREA





C. Clorane Hole Vintou Combes William Hate

Fig. 1 is a plan view of one sectional plate, in the upper part of which the glass lenses are set in place, and the concrete filled in about them; while in the lower part, neither the lenses or the concrete have yet been applied.

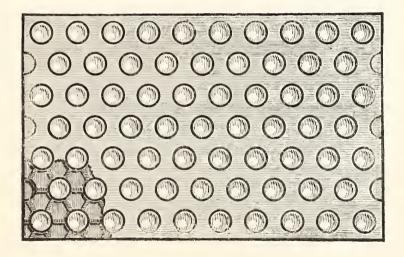
Fig. 2 is a cross-section of Fig. 1, in line x x; and Fig. 3 is a similar cross-section, showing one of the longitudinal ribs rising above, and one flush with the upper surface of lenses and concrete, and another rising only about two-thirds as high.

ILLUMINATING

Safety Ring Concrete Tile

---FOR----

SIDEWALKS AND AREAS.



This design represents the

SAFETY RING CONCRETE TILE.

Lense, 2 in, diameter.

In this Light the safety ring affords protection both to the glass and concrete. It is adapted to Areas, Roofs and Floors and to Vault Covers.

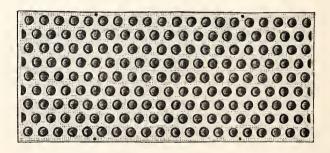
ORDERS FILLED FOR ANY SIZE OR FORM.

ILLUMINATING

CONCRETE TILE,

---- F O R ----

SIDEWALKS AND AREAS.



The illustration shows an Illuminating area or vault covering made of the patent Concrete Illuminating Tiling, which being of an even, non-slippery surface, free from knobs or projections offers a secure and pleasant footing; always clean, and highly ornamental, of great durability and perfectly water tight. Its non-conducting properties add greatly to its value. One of its many advantages is that it requires no painting. Its surface being made of glass and hydraulic cement; it rather improves by age. Little or no metal being required, rusting is avoided. We make this in 2 and 3 inch glass, and in any color,—close imitations of blue and brown stone being effected.

Office of Superintendent of the Capitol,
ALBANY, January 23d, 1883.

Hox. E. O. PERRIN,

DEAR SIR:

Having tested the advantages of the "Improved Concrete Illuminating Tiling," for Floors, Sky Lights, etc., it is with pleasure I recommend it for economy, beauty of appearance, and general utility, as superior to the "Bulls-Eye," and all others I have ever used.

Some years ago the inventor put into the Capitol his "Improved Tile," which gave such satisfaction that we have used no other kind of Tiling since.

I have more recently procured more of the same Light for the Capitol Building, and it has given entire satisfaction for all purposes. I am satisfied all persons using the Improved Light will find it a great improvement upon the old style of Illuminating Tile.

Respectfully yours,

JAMES W. EATON, SUPT.

New York, January 24th, 1883.

A year since I called for the "Detachable Ring Concrete Light' for the area of the "Liverpool, London & Globe Building," at Pine and William Streets, in this city, and have thoroughly tested the same, with the most satisfactory results. I can heartily recommend the Light to the building public as being a handsome, durable and satisfactory Concrete Tile Light for areas, vaults, floors, sky lights, etc.

STEPHEN D HATCH,

Architect.

ILLUMINATING TILES

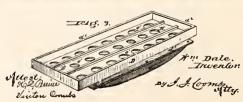
-FOR-

COVERING VAULTS, ETC.

The merits of these recent inventions, which are controlled by us, are made fully apparent in the illustrations and descriptive matter following:

2 Sheets-Sheet 1.

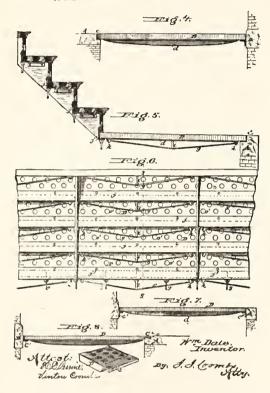
Illuminating Tiles for Covering Vaults, &o. No. 211,297. Patented Jan. 14, 1879.



The above relates to an *improvement* in Illuminating Tiles for Covering Vaults, etc. Letters patent No. 211,297, issued Jan. 14th, 1879.

Sheets-Shoot 9.

Illuminating Tiles for Covering Vaults, &c. No. 21, 297. Patented Jan. 14, 1879.



This invention is especially applicable to extension areas, which require several sections of Illuminating Tile to cover them.

In constructing and applying tiles to extension areas, the usual plan has been to fit into the stone coping a cast-iron frame, with cross-bars at suitable intervals, and then illuminating tiles or plates (cast separately from said frame) have been bolted or screwed down upon the cross bars. The improvements effected are:—

First.—Each section of the illuminating tile is cast with a supporting rib, or cross bar, having an offset or shoulder to receive and support the adjacent section, all in one piece, adapted to fit directly into the coping without a surrounding frame, thus obviating the necessity of any such frame as has heretofore been used.

Second.—Making the supporting rib, or cross-bar, of each section so shallow that it will not obstruct the oblique rays of light passing through the glasses, and re-enforcing it by a tension truss.

When the strengthening rib d is cast with a solid metal web on its lower side—as shown in figs. 3, 4, 7 and 8—said web will in some degree, obstruct the light. This is prevented by casting the rib shallow, and adding a truss consisting of a tension rod, g, connecting two lugs, h, h, cast upon the rib and braced outward by a strut, i, at its center, as shown in figs. 5 and 6.

In the engraving, fig. t is a plan view of an area cover consisting of three sections of tile, fitted into a stone coping.

Fig. 2 represents a vertical cross-section of fig. 1, on the irregular line x x.

Fig. 3 is a perspective view of one of the sectional tiles.

Fig. 4 is a side view of the same, showing one end fitted into the stone coping, and the other end resting upon an angle-iron attached to the wall of the building.

Fig. 5 is a side sectional view of a series of risers and steps, composed of illuminating tiles, on line y y, in fig. 6.

Fig. 6 is a rear view of fig. 5.

Fig. 7 is a side view of one sectional tile, supported upon angle irons, attached to the coping as well as to the wall.

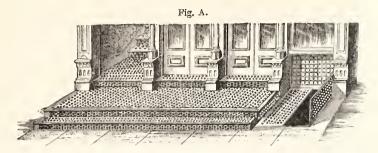
Fig. 8 shows another way of supporting the tile upon the coping when the latter is too thin to bear rabbeting, as shown in figs. 4 and 5.

When the tile is unusually long, two or more additional struts are placed intermediately between the center strut, i, and the lugs, h h, shown in fig. 6. The tension rod is adjustable to any desired degree of tautness by means of screws and nuts, as shown at h h in fig 6.

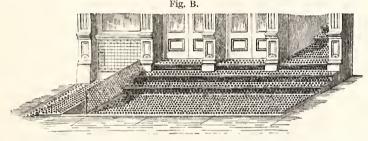
In the engravings, the illuminating tiles are represented as consisting of a cast-iron plate, in dish form, having perforations in it, covered by glass bull's eyes, and the spaces around and between the glass filled with an improved cement.

The second invention relates to an *Improvement in Illuminating* Vaults and Area Covers. Letters Patent No. 222,871, issued Dec. 23, 1879.

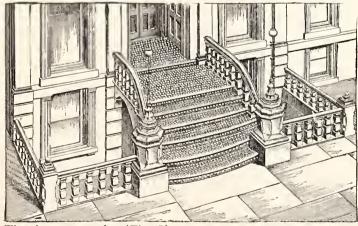
This improvement is specially designed for illuminating tiles that cover vaults and cellar areas, in which the glass bull's-eye or lenses are set in a dish-shaped cast iron perforated plate, over the perforations, and secured in place by cement or composition, filled into the dish-formed plate so as to come flush with the upper surfaces of the glass lenses. It consists first, of an improved water-tight joint between the sectional plates or tiles forming the vault or area cover; second, in strengthening the dish-shaped plate by means of a series of ribs, cast integrally therewith on the upper side thereof, running longitudinally and laterally so as to form a separate cell for each glass lens. Longitudinal ribs $a\ a^1\ a^2$, figs. 1, 2 and 3 in cut below, running between the rows of illuminating apertures, and short cross-ribs, b, extending from one longitudinal rib to the next, between each pair of apertures.



The above (Fig. A) represents an area roof with steps and risers, the sidewalk being below the tiling. By this form of construction more light is thrown into the building, and the roof cannot be used as a public walk. The elevator doors are also shown, taking the place of solid iron doors.



This cut illustrates the light introduced under the side walk and steps. Also shows wrought iron illuminated doors over side walk elevator.



The above engraving (Fig. C) represents the tiling as applied to the front of a private residence or public building, taking the place of stone or marble. It presents a more elegant appearance than either marble or granite; throws light back into the halls, and can be put up as cheaply as from the materials mentioned.

FIRST STORY BASEMENT

SKY LIGHT.

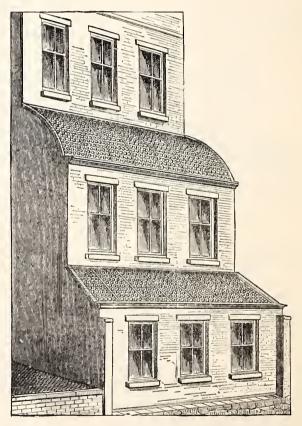
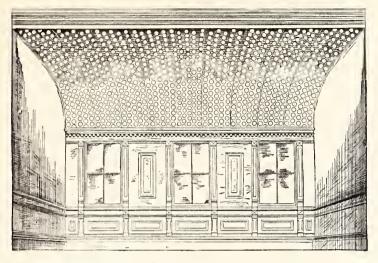
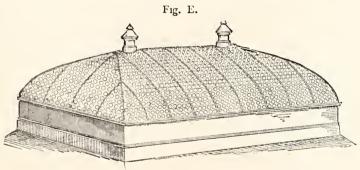


Fig. D.

We give in Fig. D. an illustration of a first-story and basement skylight. The basement having a flat roof, and the upper a curved roof, presents an attractive appearance, and is desirable in many respects.



This engraving gives an inside view of the first story rear extension, with curved roof.



SKY LIGHTS.

The above cut (Fig. E) shows a curved hipped skylight, with ventilators. It is applicable for Stores, Art Galleries, Rotundas, &c.

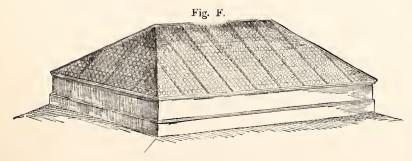
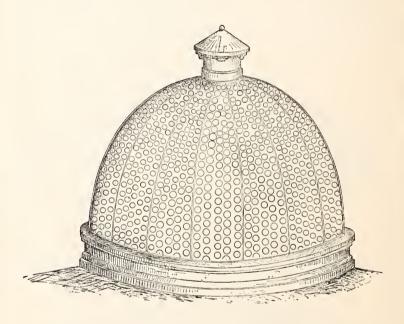


Fig. F. represents a straight or flat hipped skylight.

DOME LIGHT,

---WITH---

VENTILATOR.



The above plate shows a Dome Light, with ventilator, for Court-Houses, State Institutions, and other Public Buildings.

In all our skylights, ventilators can be so constructed that the supply of air can be as easily regulated as a fire by a stove damper.

DETACHABLE RING

---CONCRETE-

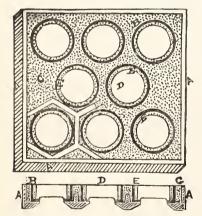
ILLUMINATING LIGHT,

__FOR___

SIDEWALKS, ROOFS, AREAS, Etc.

LENSES FROM 2 TO 4 INCHES IN DIAMETER, AS DESIRED.

PATENTED AUGUST 31ST, 1880.



A—The Iron Tile. B—The Detachable Ring, C—The Concrete. D—The Glass Lens. E—The Plastic Filing.

A detachable ring of brass, copper, lead, or any metal or substance into which glass is set with brimstone or other plastic cement, after which the glasses and rings are inserted into a concrete tile.

The advantages of this light are many, one of which is the ease with which, (in case of a glass becoming broken by a blow or other cause,) the plastic cement can be removed and a new glass inserted without disturbing the concrete surrounding the ring.

CAN BE SEEN AT

The WELLES BUILDING, 14, 16 & 18 Broadway.

At 39 BROADWAY.

LIVÉRPOOL, LONDON & GLOBE BUILDING, Cor. William & Pine Sts. S. W. Cor. BROADWAY & 18th Street.

22 W. 14th Street.

23 W. 23d Street.

WALLACK'S NEW THEATRE, 30th Street and Broadway.

BOREEL BUILDING, 115 Broadway.

N. E. Cor. 6th Avenue and 50th Street.

SKY-LIGHT 12 Wall Street.

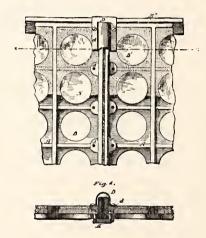
At WANAMAKER'S GRAND DEPOT, Philadelphia, and many other places.

--THE-

EXPANSION JOINT

-FOR-

ROOF AND SKY LIGHTS.



The above cut shows our system of making tight the joints of an Illuminating Roof. The great difficulty experienced in making the joints of a roof water-tight is overcome by the use of this simple device. We can now offer, with the greatest confidence, a roof of no matter how large a size.

CONCRETE LIGHTS.

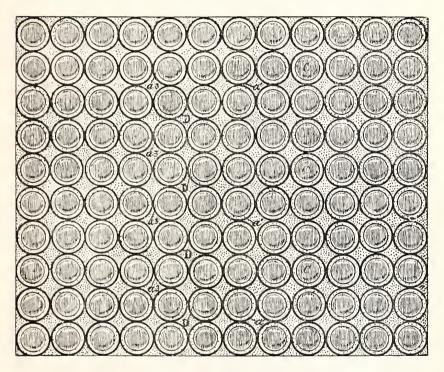
The Concrete Illuminating Tiling is, without question, the best material yet introduced for roof and sky lights. The Concrete covering the iron prevents condensation and renders the structure nearly fire-proof; and as we use the patent hood to cover the joints, an absolutely water-proof roof is secured. The amount of this style of work that has been used since its introduction is convincing proof of its superiority.

JOHN W. MARK'S

New Patent Ring Concrete Tile.

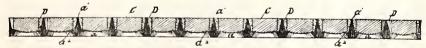
Patented Aug. 30th, 1887.

Fig. 1.-Face view of the Tile with lenses and concrete inserted, complete.



This Tile has 25 lenses, 2 inches diameter, to each square foot.

Fig. 2.-Cross section view of the Tile complete.



A-Light openings. A'-Annular curbs. A 2-Lens bearings. C-Lenses. D-Cement between lenses and annular curbs or rings.

The above illustrations represent the J. W. Mark New Patent Ring Concrete Tile, which, after considerable experimenting, we present to the public in its most perfect form.

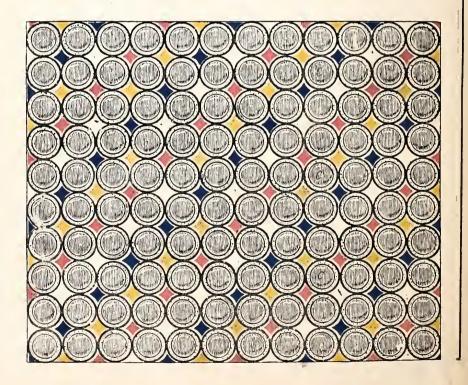
The object of this improvement is to so construct an illuminating tile as to secure a maximum amount of lens area without impairing the strength of the structure, and this is secured by constructing an illuminating tile which is provided with round light openings that are each surrounded by an annular curb, which intersects and forms part of each of the adjacent curbs (the intersecting points having only the thickness of a single curb), whereby the space between the light openings is minimized, thus bringing the lenses closer to each other and thereby increasing the light surface 25 per cent. above the

older style of concrete tiling. Considering the valuable ground space covered by Vault Lights this is an important item to owners, architects and builders. The annular enrbs having their intersecting points cast as one curb, and rising the full height of the glass; this tile is virtually a combined series of cast tee iron around each lens, and the strength of the plate is thus *increased*, scientific principles proving tee iron stronger than flat or bar iron.

The annular curbs being the full height of the glass (at the same time showing very little iron) form separate spaces for the glass and concrete, cutting and dividing the concrete surface to such an extent that the breaking and cracking of the same—common to other concrete tiles—becomes an impossibility; and by inserting the lenses in separate compartments (using hydraulic or brimstone cement) the slivering of the glass, which is due to the possible contraction and expansion of a tile with a concrete surface and an iron plate underneath, is entirely overcome. Should, however, a glass become broken by a blow, or by some other cause, it can easily and readily be removed and replaced without disturbing any portion of the surrounding concrete or glass surface. And furthermore, should every glass in the tiling covering an area be removed the concrete surface would still remain, so that with or without lenses, this tile presents a comfortable walking surface.

In all, it is a water-tight tile with a surface of iron, glass and concrete, free from any projections,-presenting a smooth, comfortable and non-slippery walking surface, and requires no painting, at the same time presenting a more beautiful appearance than any other tile manufactured; and when used in vestibules, court-yards or floors, we can insert in the concrete spaces fancy colored tiling which will make a platform that can certainly be termed an ornament to compete with the fluest flooring designs invented, with the additional benefit of giving light to apartments underneath.

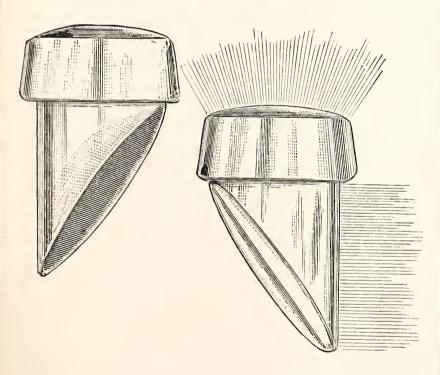
Fig. 3.—Face view of the Tile complete, with lenses and tiling inserted. Used for Vestibules, Courtyards and Floors.



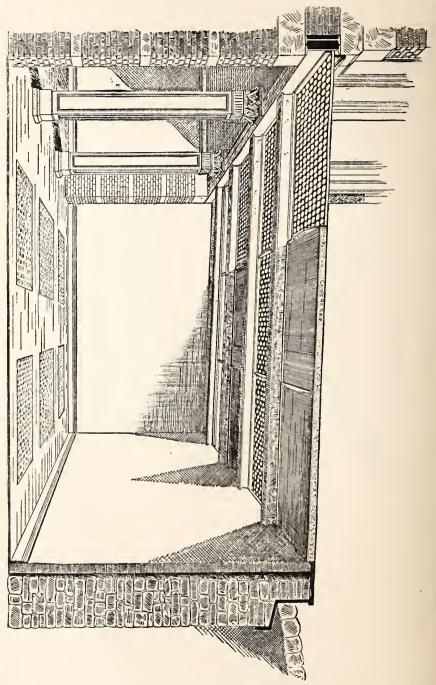
PATENT

PRISMATIC

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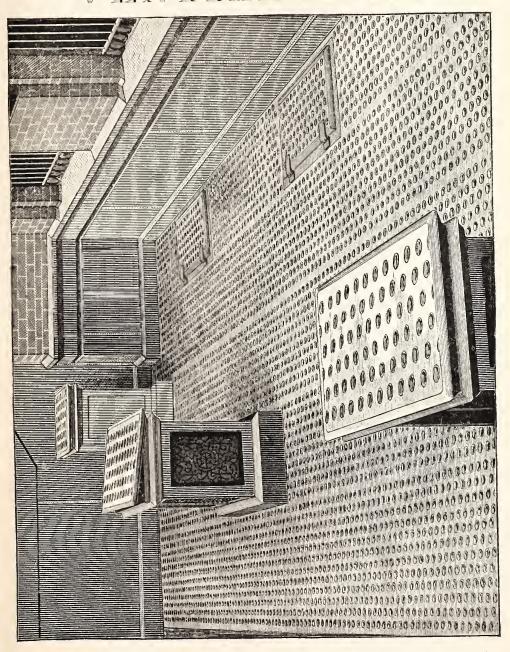


We have so perfected this lens, that it is now of real practical value. We have some six or seven different shapes or knobs, and can offer results never before obtained. Their value cannot be appreciated unless seen in use. When used in the Concrete Tiles the best results are obtained.



The above cut shows a sidewalk made of the Illuminating Concrete Light, with floor lights beneath, to illuminate sub-cellar.

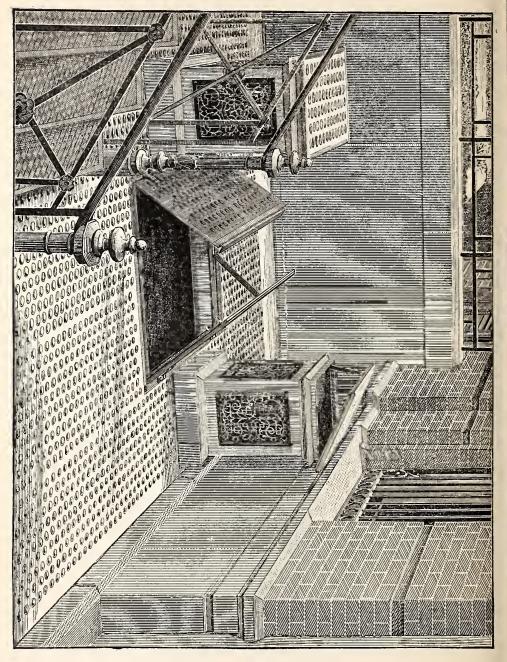
VENTILATORS.



The above cut represents one of our systems of Ventilating rooms under side walks.

Samples of the above may be seen at the "Home for Boys," corner of 3rd Street and

La Fayette Place, City of New York.

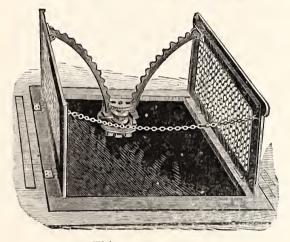


SHOWING VENTILATORS
——AND——
WROUGHT IRON ILLUMINATED DOORS.

-FOR-

OPERATING AND FASTENING

TRAP DOORS.



This cut represents

DOORS OPENED BY THIS DEVICE.

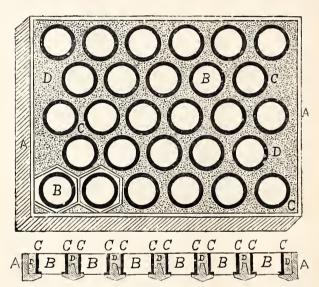
THESE DOORS ARE ALWAYS FASTENED.

ARE OPENED AND CLOSED WITH A KEY.

CANNOT BE OPENED WITHOUT A KEY.

LEAD BAND

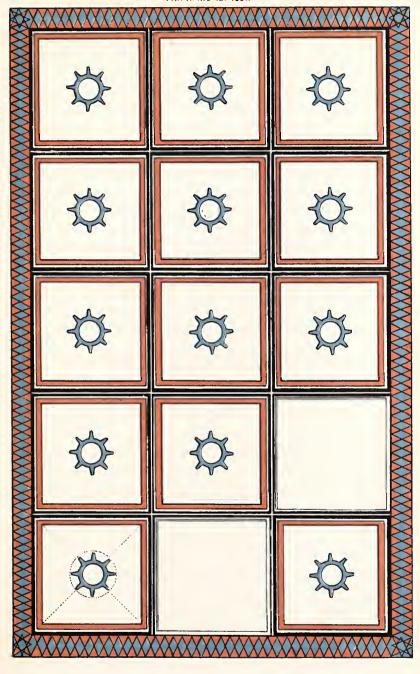
CONCRETE LIGHT.



A-The Iron Tile. B-Tue Glass Lens. C-The Lead Band. D-The Portiand Cement.

This Light entirely overcomes the breakage of glass and cement, common to other Portland cement tiles. By placing a band of lead around the glass lenses the cement is prevented from immediate contact with the glasses, thus overcoming all the usual breakage due to the contact of heated glass and cold cement, and also allowing for possible contraction and expansion.

ENAMELED CRYSTAL FLOOR LIGHT



Enameled Grystal Floor Dights.

PATENTED APRIL 12, 1881.

This valuable invention permits the use of large plates of glass for Illuminating purposes, without lessening the safety of the same from slipping, the top of the glass being recessed to receive

COLORED CEMENTS, ENCAUSTIC TILES,

METALS,

or other suitable substances, which render the surface Positively Non-SLIPPERY, and at the same time



The accompanying cut but faintly represents the beauty of this light, which surpasses the elegance of the ordinary encaustic tiling, and at the same time gives GREATER amount of Illuminating surface to the square foot than any other light in the market.

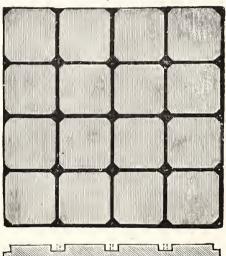
FOR FLOOR LIGHTS, VESTIBULES, PLATFORMS, STOOPS OF PRIVATE
RESIDENCES, BULKHEADS, SIDE WALLS, WAINSCOTING,
PARTITION WALLS, ETC.,

FAR SUPERIOR TO THE ENCAUSTIC TILE.

--THE---

CONCRETE PLATE.

Patented April 12th, 1881.





---FOR--

FLOOR LIGHTS, VESTIBULES, SIDE LIGHTS FOR

PARTITIONS, TRANSOMS, ETC.

The above represents a glass 10 inches square, which unlike other large plates, presents a positively sure foothold, by reason of the walking surface being seamed with concrete or other non-slippery substance.

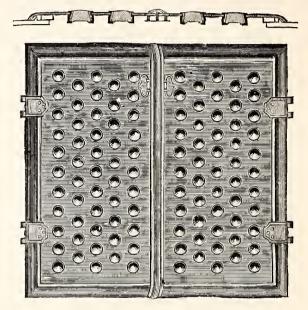
They present a very ornamental appearance, which can be heightened by the introduction of vari-colored cements, and by the production of different designs upon the faces of the glasses.

This light is already in some of the largest buildings in this city, and can be seen at our office.

WROUGHT IRON

Illuminating Door & Roofing Plate.

PATENTED MARCH 30, 1880.



For Doors to cover Sidewalks, Elevators, Area Steps and Hatchways; for Fire and Burglar Proof Illuminating Window Shutters; the lightest illuminating roof, with the least weight of any ever made. For the same reason unexcelled as a skylight for rear extensions.

These Doors weigh about *one-third* as much as ordinary cast iron illuminating doors and, unlike the last named article, cannot be broken by the roughest usage. Can be easily raised and lowered, with but little labor.

They will last as long as the building to which they are attached; are heavily galvanized and cannot corrode.

Glasses of the same thickness as those inserted in cast-iron doors; and easily replaced at a very slight cost.

These Doors can be seen in actual use at

The Equitable Life Building, 120 Broadway,

The Liverpool, London & Globe Building, cor. William & Pine Sts.

The Meriden Silver Plate Co., 30 East 14th Street,

and through the entire business portion of 14th and 23d Streets.

Also at our Works, and at many other places in New York City and elsewhere.

This is the only Patent Wrought Iron Illuminated Door in the market. All others are base imitations, being made of cast and wrought iron combined, and in their construction lacking durability, finish and lightness, which are the distinguishing characteristics of the Wrought Iron Illuminating Door.

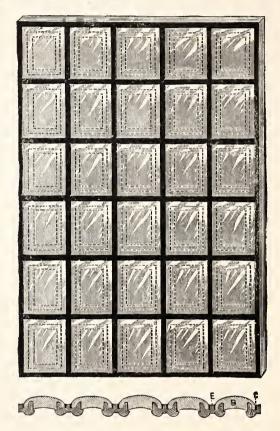
REFERENCES.

We give below a list embracing the most prominent Buildings erected in New York and elsewhere (during the last eight years,) in which the Concrete Tile has been used.

All the new business portion of Sixth Avenue, Fourteenth and Twenty-third Streets, the principal retail business streets of New York. Metropolitan Opera House, N. Y. Cady. Century Building
Also at numerous places in Washington, D. C. Albany, N. Y. Buffalo, "Waterbury, "Binghamton, "Baltimore, Md. Syracuse, "Newark, N. J. Cincinnati, Ohio. Cleveland "Brooklyn, N. Y. San Francisco, Cal. Peoria, Ill.

The character and variety of the buildings embraced in the above list, being the best efforts of our most eminent architects,—is an endorsement of the most emphatic character.

WATER-TIGHT ILLUMINATING TILE.



A the iron tile, B the lens. C the cement. D the inner flange. E the outer ring.

PATENTED FEBRUARY 20, 1883.

This Light is ABSOLUTELY WATER-TIGHT as soon as the lens is set in position and before any cement is used.

Each lens is provided with a lip which sets over the inner flange D, which surrounds the light opening; the lenses being secured in position by any adhesive Cement applied *outside* the lens and within the outer wall, E.

The outer wall, being on a lower plane than the inner flange regulates the flow of water, and carries the same away before it rises to the level of inner flange.

The above is especially adapted for sky-lights.

—NEW—

PATENT LENSES.

PATENTED AUG. 22, 1882.
PATENTED MARCH 4, 1884.

As shown in illustration, Figures 1 and 2, these lenses have biconvex and concave surfaces in a diagonal position with relation to the axis of the lenses, whereby they are enabled to refract and reflect. The opposite cut illustrates the effect of the use of these lenses, and gives a very clear idea of the direction given to the rays of light passing through them.

Their advantage above those generally in use is very apparent.—
They economize space with a greatly improved light, and as they disdistribute the light *horizontally and diagonally* throughout the apartment, permit in many cases the use of room which otherwise would be useless; and where land is so expensive, this is a desideratum especially looked for by architects and owners.

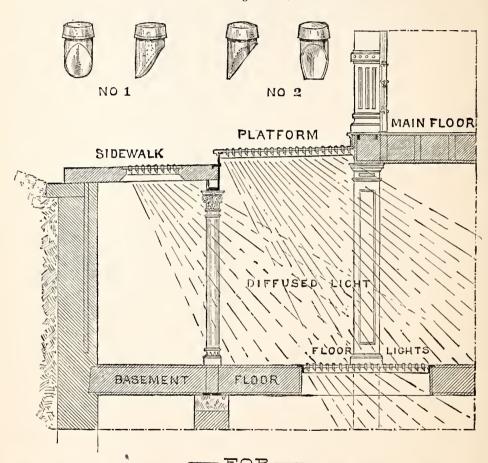
The pendents of our Patent Lenses being *perpendicular*, with a diagonal surface, and setting at right angles with the plate, are free from this great gathering of dirt, and are easily cleaned.

---SEE NEXT PAGE.

NEW PATENT

Pakoka kakaka.

—Patented August 22nd, 1882.—



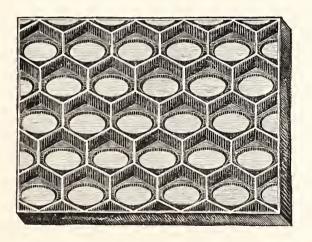
SIDE WALKS, AREAS,

ROOFS AND SKY-LIGHTS.

---THE-

TILE WEBBING.

Patented September 26, 1882.



The above cut represents a section of Tile Webbing, which is so constructed as to give extra strength, and at the same time, the greatest amount of illuminating surface to the square foot.

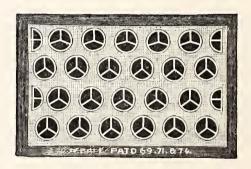
When this Tile is filled with glasses and concrete, the hexagon shape of the lens-openings aids materially to render the light ornamental.

Can be cast to any size or shape.

COMCRETE

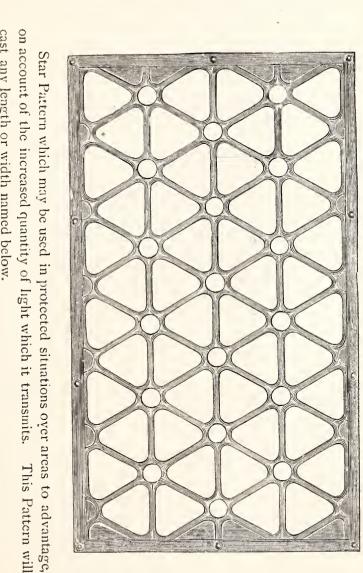
SURFACE

VENTILATING TILE.



This design represents a Concrete Surface Ventilating Tile.

A few of these Tiles, inserted into a Concrete Illuminating platform, will give the amount of ventilation required, and at the same time preserve the non-slippery and ornamental qualities, in conformity with the rest of the work.

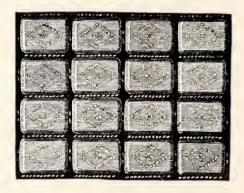


cast any length or width named below. 7-8 7-5 7-2 6-8% 6-5% 6-2% 5-11% 5-534 Length. 4-834 4-034 4-234 0 0 0 0 0-04 0-04 0-04 This Pattern will 2-8% Width. 1-10½ 1-5½

4-113

---FOR-----

SIDEWALKS AND AREAS.



This design represents the

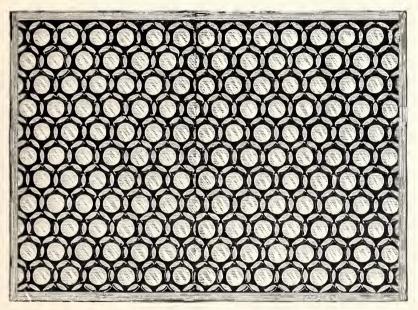
PROTECTED FLOOR LIGHT.

Lens 3x4 in. Also made with smooth surface.

The underside of the glasses, used in the pattern is checkered, which gives to the glass a beautiful silvery appearance, and at the same time obscures from the sight persons passing over or standing upon them-

----- F O R -----

SIDEWALKS AND AREAS.





This design represents the well known

Elongated Knob Protected Bull's-Eye

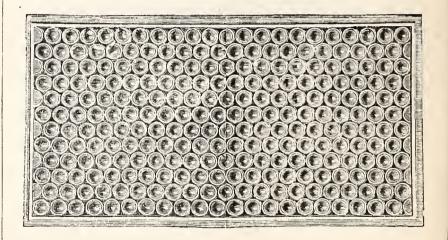


Lens, 2 in. diameter.

This style affords more light than the 1½ in. Lens tile, and is best adapted to all places, except where exceedingly heavy weight is handled.

FOR—

SIDEWALKS AND AREAS.



This design represents the

SMOOTH BULL'S EXE



Lens, 1% in. diameter; Tile, 1/4 in. thick.

FOR PLACES WHERE THE PROJECTING KNOBS ARE NOT REQUIRED

→

NEW

Illuminating Ventilating Riser,

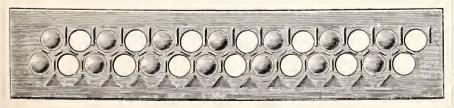
Perfect Ventilation for Areas and Basements.

The Best Ever Manufactured.



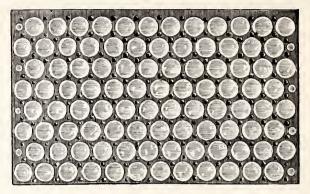
This illustration gives a back view of our New Ventilating Riser and shows plainly the modus operandi. It is in fact a double riser, one, the main riser, having a rabbet bearing cast upon the bottom of the back to receive the other, or acting riser. The acting riser is set on small rollers so that it can be pulled easily to either the one end or the other. In both risers every other hole in each row is filled with a glass, while the remaining holes are open, and the acting riser is so arranged that, by means of a cable chain on each end passing through a side pulley, it can be pulled to the right or to the left, bringing at will the open holes and the glass of the acting riser directly behind the glass and the open holes, respectively, of the front or main riser, thus shutting it and admitting only illumination; or bringing the glass of the acting riser directly behind the glass of the main riser, thus making the open holes in both sections meet and opening it, at the same time allowing the pure air to enter and obtaining illumination also.

The above cut represents the riser when closed, while the following illustration represents a front view open.

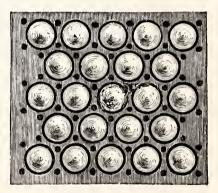


Made any Length or Width.

FOR SIDEWALKS AND AREAS.

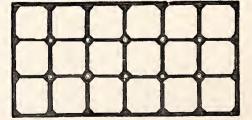


This design represents our old well known Knob Protected Bull's Eye Tile, $\frac{7}{8}$ in. Thick. Lens, $1\frac{5}{8}$ in diameter. The strongest made.



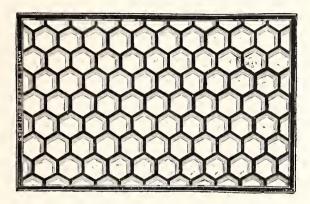
Two inch Knob Protected Tile, 5% in. Thick. Lens, 2 in.

OCTAGON LIGHT.



For Floor and Sky-Light, Lens, 5 in. diameter.

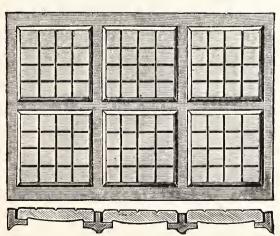
HEXAGONAL ROOF LIGHT.



This design represents our old and well known style of ROOF LIGHT FOR STORES, made of three-inch hexagonal flint glasses, set in cast-iron, and made into any desired form of Sky-Light, flat, curved, or semi-spherical.

This style has been long in use in New York and other cities.

THE 4×4 TILE, EITHER CAST IRON OR CONCRETE FACE.



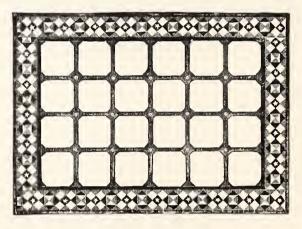
Laid at the Cooper Institute, Equitable Life Insurance Company Building, and other large buildings.

Either cast-iron or concrete face.

FLOOR LIGHT

—FOR THE—

INSIDE OF BUILDING.



This design represents the

OCTAGON LIGHT,

Surrounded with a Border filled in with

emcausors ortes

Of various colors and figures, giving the work a highly ornamental effect.

REPAIRING

PROMPTLY ATTENDED TO.

THE TRADE SUPPLIED

---WITH ALL KINDS OF---

GLASSES, CEMENT, PAINT,

- LE THE THE AVEL

BRUSHES, PUTTY, ETC.

ANYTHING

REQUIRED IN OUR LINE.

= estimates =

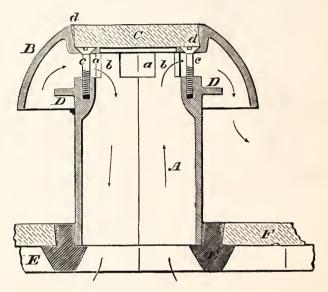
GIVEN ON SHORT NOTICE.

PATENT

VENTILATOR

-FOR-

ROOFS AND SKY-LIGHTS.



This Illustration represents a

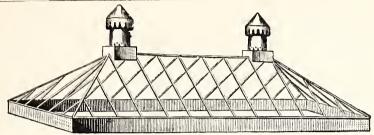
verterator,

PAT. AUGUST 10, 1880,

---FOR-

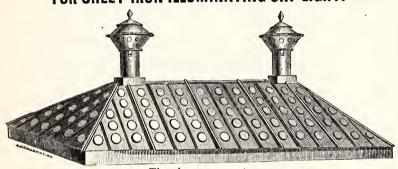
ROOFS AND SKY-LIGHTS,

Which we manufacture and keep in stock to fit in the place of Three and Five inch Hexagon, and Three and Four inch Round Lenses.



The above cut represents

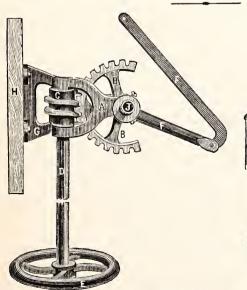
FOR SHEET-IRON ILLUMINATING SKY-LIGHT.

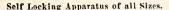


The above represents

SHEET-IRON ILLUMINATING SKY-LIGHT,

WHEN COMPLETED.

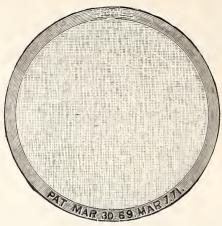




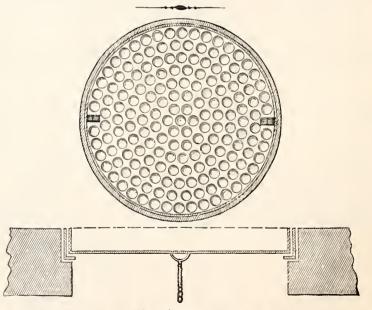


Ventilators of all Kinds.

COAL HOLE COVERS.



The above Covers we make and keep in stock, in sizes from 16 to 52 inch diameter with or without rings.



The above shows

RING AND COVER

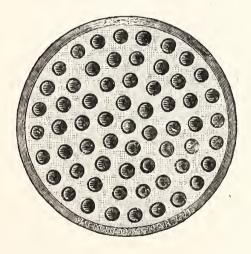
-AS SET IN THE STONE.-

- CONCRETE

ILLUMINATING VAULT COVER

---AND----

COAL HOLE PLATE.



This design represents the

CONCRETE VAULT COVER,

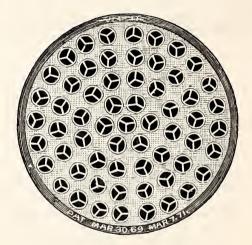
WILICH WE MANUFACTURE AND KEEP IN STOCK

IN SIZES FROM 16 INCH TO 36 INCH.

VENTILATING CONCRETE COVER

--AND--

COAL HOLE PLATE.



This design represents

VENTILATING VAULT COVER,

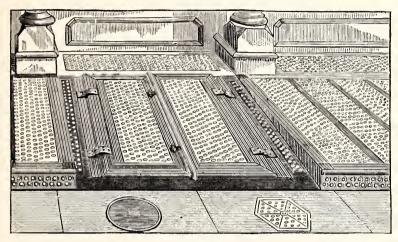
WHICH WE MANUFACTURE AND KEEP IN STOCK IN SIZES FROM 18 INCH TO 36 INCH.

WE ALSO MANUFACTURE AND KEEP IN STOCK

PLAIN CONCRETE COVERS,

18 IN., 20 IN, AND 24 IN, DIAMETER,

TRAP DOORS



The above cut shows

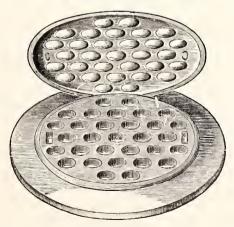
TRAP DOORS AND PART OF PLATFORM

TAKEN FROM WORK DONE BY US.

≕ COMBINATION ►

VENTILATING AND ILLUMINATING





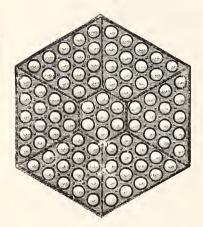
Illuminating Cover can be lifted off leaving Open Cover for Ventilation, or both can be taken out of encircling ring if desired, leaving opening for coal.

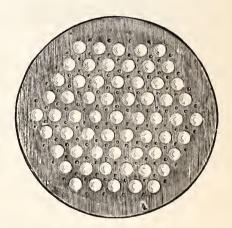
= ittiviiidatiide =

VAULT COVERS

__AND___

COAL HOLE PLATES.





These designs represent the

ROUND AND HEXAGONAL VAULT COVERS

-@WITHO-

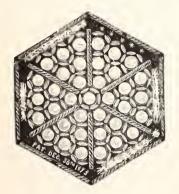
ROUND KNOB PROTECTION,

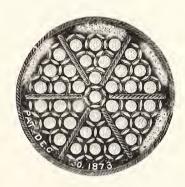
Which we manufacture and keep in stock in sizes from 16 in, to 36 in,

VAULT COVERS

ANDA

COAL HOLE PLATES.





These designs represent the

ELONGATED KNOB ROUND

---AND---

HEXAGONAL VAULT COVERS,

Which we manufacture and keep in stock in sizes from

12 inch to 36 inch.

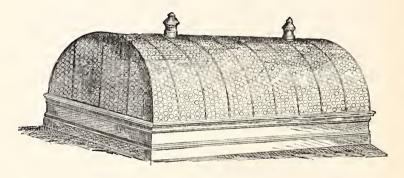
The Elongated Knob Protection on these covers makes them superior to all other styles, as the knob adds greater strength to the castings, and gives better protection to the glasses, and a more secure and comfortable foothold than any other hitherto employed. As these knobs are heavy and do not wear much, these covers are especially adapted to exposed situations, where the ordinary covers soon wear so smooth as to become dangerous to pedestrians.

We also manufacture all kinds of

BLANK IRON COYERS.

CONCRETE

SKY-LIGHT.



This design represents an

OBLONG SKY-LIGHT

____ WITH ----

AS USED UPON THE

- PUBLIC BUILDINGS

ART GALLBRIES, ETC.

PRICE LIST.

Illuminating Protected Vault Covers.

ROUND COVERS.	HEXAGON COVERS.
12 in. diameter\$2 50	12 in. diameter\$
14 " " 3 00	14 " "
16 " " 3 75	16 " " 4 00
18 " " 5 50	18 " " 6 00
20 " " 8 00	20 " " 8 50
22 " "	24 " "15 00
24 " "14 00	27 " "19 00
26 " 16 00	30 " "25 00
30 " "	36 " "33 00
36 " " 31 00	

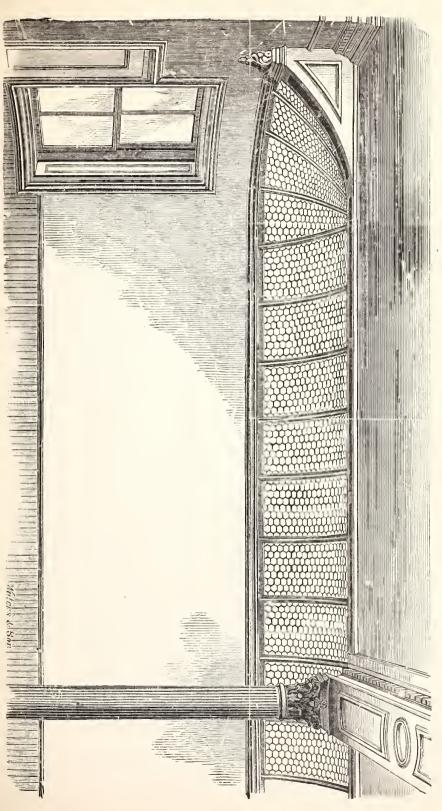
Illuminating Concrete Vault Covers.

16	in.	diameter							 							٠.			 \$5 00	
18		44							 	٠.			 						 6 00	
20		**							 						 				 9 00	
22		46										 				٠.			 11 00	
24		•6	٠.							٠.									 15 00	
28	"	"																٠.	 21 00	
30		**			٠.			 											 25 00	
36	••	46																	 35 00	

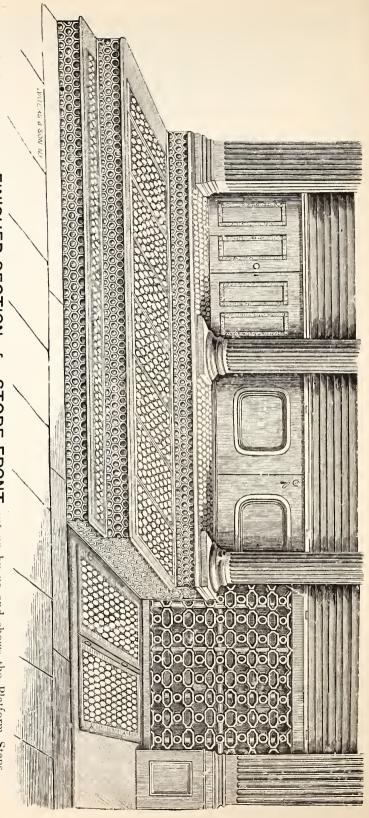
OTHER SIZES MADE TO ORDER.

PRICE LIST.

Protected Vault Lights for Areas.
Tiles, per sq. ft. \$ Tiles, with Frames, per sq. ft Tiles Bolted in frames, ready to lay, per sq. ft Lights laid complete, per sq. ft
Floor, Roof and Sky-Lights.
Tiles (straight), per sq. ft
The Concrete Light for Areas.
Tiles, per sq. foot\$ Tiles with Frames, per sq. ft Tiles Bolted in Frames, ready to lay, per sq. ft Laid complete, per sq. ft
Floor, Roof and Sky-Lights.
Tiles (straight), per sq. ft
Doors.
Cast Iron Illuminating, per sq. ft



This Cut represents a finished section of three-inch HEXAGONAL CAST IRON CURVED ROOF LIGHT, over the rear extension of a Store, put up by us, and shows the arrangement of the Tiles and Bars, and the beautiful effect of the curved form.



This Cut represents a FINISHED SECTION of a STORE FRONT put up by us, and shows the Platform, Steps, Risers and sills, together with the Elevator Doors.



